



DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

APR 20 1999

Food and Drug Administration  
9200 Corporate Boulevard  
Rockville MD 20850

Ms. Karen Callbeck, R.T., B.Sc.  
Regulatory Affairs Coordinator  
Diagnostic Chemicals Limited  
16 First Street  
West Royalty Industrial Park  
Charlottetown  
PE C1E 1B0  
CANADA

Re: K990754  
Trade Name: Carbon Dioxide - L3K Assay, Catalogue Number 299-30/40/50  
Regulatory Class: II  
Product Code: KHS  
Dated: March 5, 1999  
Received: March 8, 1999

Dear Ms. Callbeck:

We have reviewed your Section 510(k) notification of intent to market the device referenced above and we have determined the device is substantially equivalent (for the indications for use stated in the enclosure) to legally marketed predicate devices marketed in interstate commerce prior to May 28, 1976, the enactment date of the Medical Device Amendments, or to devices that have been reclassified in accordance with the provisions of the Federal Food, Drug, and Cosmetic Act (Act). You may, therefore, market the device, subject to the general controls provisions of the Act. The general controls provisions of the Act include requirements for annual registration, listing of devices, good manufacturing practice, labeling, and prohibitions against misbranding and adulteration.

If your device is classified (see above) into either class II (Special Controls) or class III (Premarket Approval), it may be subject to such additional controls. Existing major regulations affecting your device can be found in the Code of Federal Regulations, Title 21, Parts 800 to 895.

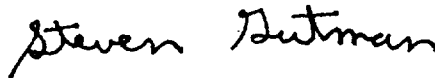
A substantially equivalent determination assumes compliance with the Current Good Manufacturing Practice requirements, as set forth in the Quality System Regulation (QS) for Medical Devices: General regulation (21 CFR Part 820) and that, through periodic QS inspections, the Food and Drug Administration (FDA) will verify such assumptions. Failure to comply with the GMP regulation may result in regulatory action. In addition, FDA may publish further announcements concerning your device in the Federal Register. Please note: this response to your premarket notification submission does not affect any obligation you might have under sections 531 through 542 of the Act for devices under the Electronic Product Radiation Control provisions, or other Federal laws or regulations.

Under the Clinical Laboratory Improvement Amendments of 1988 (CLIA-88), this device may require a CLIA complexity categorization. To determine if it does, you should contact the Centers for Disease Control and Prevention (CDC) at (770) 488-7655.

This letter will allow you to begin marketing your device as described in your 510(k) premarket notification. The FDA finding of substantial equivalence of your device to a legally marketed predicate device results in a classification for your device and thus, permits your device to proceed to the market.

If you desire specific advice for your device on our labeling regulation (21 CFR Part 801 and additionally 809.10 for in vitro diagnostic devices), please contact the Office of Compliance at (301) 594-4588. Additionally, for questions on the promotion and advertising of your device, please contact the Office of Compliance at (301) 594-4639. Also, please note the regulation entitled, "Misbranding by reference to premarket notification" (21 CFR 807.97). Other general information on your responsibilities under the Act may be obtained from the Division of Small Manufacturers Assistance at its toll-free number (800) 638-2041 or (301) 443-6597, or at its internet address "<http://www.fda.gov/cdrh/dsma/dsmamain.html>".

Sincerely yours,

A handwritten signature in black ink that reads "Steven Gutman". The signature is written in a cursive, slightly slanted style.

Steven I. Gutman, M.D, M.B.A.  
Director  
Division of Clinical  
Laboratory Devices  
Office of Device Evaluation  
Center for Devices and  
Radiological Health

Enclosure

510(k) Number (if known): K990754

Device Name: CO<sub>2</sub> - L3K

**Indications for Use:**

For the quantitative determination of carbon dioxide in serum. For IN VITRO diagnostic use.

Elevated blood CO<sub>2</sub> is almost synonymous with respiratory acidosis. The latter is restricted to clinical conditions with a primary increase in carbon dioxide in the inspired air or increased metabolic production of carbon dioxide.

Decreased blood CO<sub>2</sub> is almost synonymous with respiratory alkalosis. The latter is restricted to clinical conditions with a primary decrease in carbon dioxide which can result from increased pulmonary ventilation due to mechanical ventilation or stimulation of the respiratory center (1).

Classic techniques for the measurement of carbon dioxide (CO<sub>2</sub>) involve the addition of acid to liberate the carbon dioxide and the measurement of carbon dioxide thus released by either manometric, volumetric, or titrimetric techniques. These procedures are both time consuming and cumbersome. The DCL Carbon Dioxide-L3K assay is an enzymatic procedure, employing phosphoenolpyruvate carboxylase (PEPC) (2) and a stabilized NAD analog (3), which is easy to use and applicable to routine laboratory instrumentation.

Jean Cooper  
(Division Sign-Off)  
Division of Clinical  
510(k) Number: K990754

(PLEASE DO NOT WRITE BELOW THIS LINE - CONTINUE ON ANOTHER PAGE IF NEEDED)

Concurrence of CDRH, Office of Device Evaluation (ODE)

Prescription Use ☒  
(Per 21 CFR 801.109)

OR

Over-The-Counter Use ☐

(Optional Format 1-2-96)